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<b>(54) Title:</b> CUSTOM COUPON PROCESS			
<b>(57) Abstract</b>  A unique process by which manufacturers and retailers are able to offer coupon savings utilizing the internet or direct mail to customize and deliver unique customer selected coupon savings. In a retailer application, the consumer selections are delivered in one of two manners. If the retailer uses a "frequent shopper card", which is customer specific, formatted data is collected, maintained and transmitted to the retailers' secure interface. The data is then transmitted to the appropriate retailers' point-of-sale system. The consumer selected discounts are deducted from the consumers grocery total after purchase verification and use of the "frequent shopper card". If a "frequent shopper card" is not used by the retailer, a database will collect the selection data, laser print the customer specific coupon selections, imprint each with the appropriate consumer identification and retailer logo, and direct mail the coupons to the consumer. In a completely non-internet application, consumer selections are made, scanned and recorded using a paper selection from delivered through the mail. Regardless of method, all consumer selection data is catalogued, maintained and managed by the database.			

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## CUSTOM COUPON PROCESS

### CROSS-REFERENCE TO RELATED APPLICATIONS

Not Applicable.

### STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not Applicable.

### REFERENCE TO A MICROFICHE APPENDIX

Not Applicable.

### BACKGROUND - FIELD OF INVENTION

This invention relates to the creation, distribution and redemption of coupons, specifically to providing manufacturers and retailers a highly efficient, cost-effective method of targeting qualified consumers, and providing consumers with the ability to select specific coupons.

### BACKGROUND OF THE INVENTION

Many manufacturers and retailers of goods and services use coupons as an effective marketing tool to attract consumers. These manufacturers/retailers include, but are not limited to, consumer product companies, supermarkets, and pharmaceutical companies. The coupons offered typically allow for a specific monetary discount off of the price of the product, or for a free item with the purchase of an identical item. These coupons are available to the consumer in a variety of ways.

The standard method for distributing coupons is through a supplement in the Sunday newspaper, also known as a free standing insert. This method offers a wide distribution of coupons to a vast majority of the public. However, many of these potential consumers are not interested in purchasing the advertised goods even at the discounted price, or in searching the free standing insert for possible items of interest and

clipping the coupons, thereby resulting in a low two percent redemption rate. Further, nothing is known about the consumers' purchasing habits. Therefore, distributing coupons by this method is costly and inefficient.

A second method of distribution is a coupon offered through a manufacturer/retailers advertisement in a newspaper or magazine. This method contains many of the drawbacks as listed for the previous mode of distribution.

A third and more effective method of distribution of coupons is through direct mail. The redemption rate for this method is higher than the previous methods. However, all of the same drawbacks are present with the exception of taking time to clip the coupons as the coupons are generally produced in a stand alone fashion.

More recent methods of distribution of coupons are now available directly at the retail establishment. One such method is the use of coupon kiosks. This method requires the customer upon entering the store to select coupons through a kiosk that distributes the coupon to the consumer upon selection. This is accomplished by using a touch screen that displays a limited variety of discounted items. This method allows the customer to choose only those coupons which are of interest to him without the time consuming task of sorting through a large insert and clipping the coupons for later use. Further, some systems allow for tracking of individual consumer purchases through the use of a plastic card, similar to a credit card, with a magnetic stripe or UPC code. The drawback to the kiosk, however, is that it provides only a limited selection of coupons to the consumer, the consumer can only access it while in the store, and it is costly to operate.

Another method of in-store distribution of coupons is a coupon that is printed out when the consumer completes a purchase at the cash register. Upon purchasing selected items, the in-store computer generates a coupon for a similar item. While this coupon is more attuned to a consumers purchasing habits, there are still some drawbacks. First, the coupon cannot be used until the customers' next purchase. This allows for the coupon to be thrown away or forgotten on the next shopping trip. Second, the coupon issued is rarely for the same item the consumer bought, instead it is usually for a competing brand. This

makes the consumer less likely to use this coupon. Further, as has been noted above, manufacturers and retailers still do not receive detailed information on each customer, and the process is costly.

#### BRIEF SUMMARY OF THE INVENTION

The object of this invention is to provide the most complete and cost-efficient coupon program available. Specifically, this invention seeks to increase redemption rates of coupons for manufacturers and retailers while lowering costs incurred by distribution and fraud. A further objective is to provide manufacturers and retailers with detailed information on consumers enabling them to target qualified customers, and to customize their coupons accordingly. As to customers, the objective is to allow the customer to easily select only those coupons that are of interest by allowing them to choose specific products for which coupons are to be produced.

#### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

In the drawings, closely related figures have the same number but different alphabetic suffixes.

Fig 1 shows an overview of the entire custom coupon system.

Fig 2 shows the database sub-systems and integrated processes.

Fig 3 shows the use of a consumer registration process at a participating web site.

Fig 4 shows the use of a consumer registration process at a participating retailer web site.

Fig 5 shows the use of a retailer card system operating on the retailers' premises.

Figs 6A to 6E show the consumer registration process used on the web sites.

Fig 7 shows the sub-system used for storing data specific to each consumer, and the process for maintaining the data.

Fig 8 shows the sub-system used for storing data specific to each manufacturer, and the process for maintaining the data.

Figs 9A to 9E show the sub-system used for storing data specific to each coupon, and the process for maintaining the data.

Fig 10 shows the sub-system used to store and process coupon orders.

Figs 11A to 11D show the on-line maintenance process used to track a consumer's internet session.

Figs 12A to 12D show the consumer validation process.

Figs 13A to 13H show the coupon selection process.

Fig 14 shows the order fulfillment process.

Figs 15A to 15H show the coupon activity reporting process.

Figs 16A to 16C show the performance reporting process.

Figs 17A to 17F show the electronic coupon printing process.

Figs 18A to 18E show the electronic coupon posting process.

Figs 19A to 19E show the electronic coupon management process.

Figs 20A to 20E show the electronic coupon redemption process.

Figs 20A to 20C show the electronic redemption reporting process.

#### **DETAILED DESCRIPTION OF THE INVENTION**

##### **1. Summary of System Overview**

Figure 1 represents the Custom Coupon System Overview that includes the Custom Coupon System, Participating Web Sites, Retailer Web Sites, Retailer Card Systems and Consumers. The Custom Coupon System, Participating and Retailer Web Sites, Retailer Card Systems, and Consumers communicate and interact with each other over the Internet through the conventions and capabilities of the World Wide Web.

Consumers interacting with the Custom Coupon System via Participating or Retailer Web Sites, or submitting Custom Coupon Program selection forms are participating in the Custom Coupon Program. A Consumer initiates an on-line Custom Coupon Program session and becomes a Custom Coupon Program participant when he or she selects the appropriate option on a Participating or Retailer Web Site. A Consumer without access to the World Wide Web on the Internet becomes a Custom Coupon Program participant when they first submit a Custom Coupon Program selection form by mail.

This Custom Coupon System description refers to "Internet participants", meaning those consumers who interact with the Custom Coupon System via the Internet, and "non-Internet participants", meaning those consumers who interact with the Custom Coupon System via paper coupon selection forms sent via mail. Likewise it refers to "Internet session", meaning an on-line interaction between a participant

and the Custom Coupon Program via the Internet, and "non-Internet cycle", meaning the interaction between a participant and the Custom Coupon Program via printed forms exchanged via the mail.

The Custom Coupon System operates on a standard, commercially available hardware platform with standard, commercially available operating system, Web server, and data base management system software with standard telecommunications access to the Internet. The Participating and Retailer Web Sites interact with the Custom Coupon System via the Internet, and each is unique in its own right. The Retailer Card Systems also interact with the Custom Coupon System via the Internet, and each is unique in their own right. The Consumers interact with the Custom Coupon System through personalized user interfaces in the form of Web Sites and interactive Web pages, and Custom Coupon Program selection forms.

The invention consists of the process by which Consumers are presented with individualized listings of manufacturer coupons, are allowed to select coupons they wish to receive, and receive the selected coupons in a highly secured manner appropriate to the Consumer's status, either in printed or electronic form.

## **2. Summary of Custom Coupon System**

Figure 2 represents the Custom Coupon System consisting of four database sub-systems and a unique set of integrated processes. The Custom Coupon System is not dependent on a specific hardware platform, nor on specific software products.

The Consumer Sub-System includes a relational database that stores data specific to each Consumer participating in the Custom Coupon Program, and a set of processes for tracking the Consumer's demographic information and coupon selection history. This sub-system is vital to the invention and allows the Custom Coupon System, Participating Web Sites, and Retailer Web Sites to personalize interactions with the Consumer and track the Consumer's participation in the Custom Coupon Program.

The Manufacturer Sub-System includes a relational database that stores data specific to each Manufacturer participating in the Custom Coupon Program, and a set of processes for tracking the Manufacturer's address, telephone numbers, contacts, invoicing, and related information. This sub-system

is vital to the invention and allows the Custom Coupon System to properly track and report a Manufacturer's participation in the Custom Coupon Program.

The Coupon Sub-System includes a relational database that stores data specific to each manufacturer Coupon enrolled in the Custom Coupon System, and a set of processes for capturing, cataloging, storing, applying, printing, and tracking coupons and coupon-specific data. This sub-system is vital to the invention and allows the Custom Coupon System to present, process, track, report, and reproduce manufacturer coupons for Consumers and Manufacturer's participating in the Custom Coupon Program.

The Order Sub-System includes a relational database that stores data specific to each set of coupon selections requested by consumers participating in the Custom Coupon Program, and a set of processes for processing, tracking, transferring, scanning, and printing the coupon Orders as determined by the Consumer's status.

The Custom Coupon System is comprised of a structured set of processes that ultimately present, process, deliver, and report coupons for the Consumer, and report and invoice coupon activity for the Retailer and Manufacturer.

In a typical Internet Custom Coupon Program session, a Consumer accesses the Internet, and then visits a Participating or Retailer Web Site using the World Wide Web browser software on their personal computer. After the Consumer is properly registered (see section 3, *Consumer Registration Process*), the Participating or Retailer Web Site forwards specific Consumer information relinquishes session control to the Custom Coupon System.

The Custom Coupon System accepts the request for service from the Participating or Retailer Web Site, and immediately initiates the Consumer Validation Process. This process involves the checking for the existence of a previously stored Consumer record based on the Consumer's identification number, retailer card number, and/or address. If the Custom Coupon System determines this is a "first-time" participant, a unique set of Consumer database records are created with the data provided by the Participating or Retailer Web Site.

The Custom Coupon System then initiates a Coupon Selection Process which is comprised of several sub-processes (see section 13, *Coupon Selection Process* for details). This process reviews all coupons enrolled in the Custom Coupon Program and applies a number of filters to eliminate all but those coupons eligible for selection by this specific Consumer. The coupons that remain as eligible for selection are then categorized and presented to the Consumer as a list of coupon choices. To facilitate the Consumer's choices, product descriptions, product images, audio and video "commercials" are made available for the Consumer to review. The Consumer makes his or her selections by checking, or marking, each coupon on the on-line form he or she wants to receive. When the consumer indicates he or she is finished selecting coupons, the savings these coupons represent are summarized and a confirmation is presented the Consumer. When the Consumer acknowledges the confirmation, a coupon order is created.

In the non-Internet Custom Coupon Program cycle, the Consumer receives a customized coupon selection form in the mail, completes the form and mails it back to Custom Coupon. The coupon selection form is then scanned, the mark sense selections on the selection form are recognized and related to the appropriate coupon choice, and the Custom Coupon System creates a coupon order.

The Custom Coupon System's Coupon Fulfillment Process is a perpetual process that services each coupon order after the order is created (see section 14, *Coupon Fulfillment Process* for details). This process determines how the coupon order is to be fulfilled, then either prints the selected coupons for mailing to the Consumer's residence, or electronically posts the coupons to the Retailer's Card System.

The Custom Coupon System's Activity Reporting process is comprised of modules that retrieve, summarize, and produce Custom Coupon Program-level, Retailer, and Consumer reports and ondemand on-line queries.

The Custom Coupon System's Performance Reporting Process is comprised of modules that retrieve data from each sub-system and generate customized reports and invoices for Custom Coupon Program manufacturers and retail partners.

The Custom Coupon System's On-line Session State Maintenance Process maintains information about the Consumer's current Custom Coupon Program session for as long as the Consumer is interacting with the Custom Coupon System via the Internet. This process is essential to the invention and allows a

Consumer the freedom to begin, interrupt, then resume and eventually complete a Custom Coupon Program session according to their circumstances. This process maintains information about the Consumer, the session, and the coupons selected by the Consumer through coupon order creation, or a period of elapsed time that indicates the Consumer does not wish to finalize his or her coupons selections at this time.

### **3. Participating Web Site**

Figure 3 represents a Participating Web Site and the singular Custom Coupon Program process that it is responsible for. This Web site may reside on any World Wide Web server on the Internet and may interact with the Custom Coupon System operating on its server pending proper authorization by the Custom Coupon Program administrators.

### **4. Retailer Web Site**

Figure 4 represents a Retailer Web Site and the singular Custom Coupon Program process that it is responsible for. This Web site may reside on any World Wide Web server on the Internet and may interact with the Custom Coupon System operating on its server pending proper authorization by the Custom Coupon Program administrators. A Retailer Web Site is differentiated from a Participating Web Site in the type of consumer it supports, the specific Consumer information it forwards to the Custom Coupon System, and the type of coupons it's consumers may receive.

### **5. Retailer Card System**

Figure 5 represents a Retailer Card System operating on the Retailer's premises and hardware platforms. Besides managing the Retailer's frequent shopper or club card systems, the Retailer Card System supports a few key processes which allow consumers to benefit from the Custom Coupon Program and electronic coupons. These processes include electronic coupon posting, redemption, and reporting. Integration with the Custom Coupon System is achieved via a set of standard transactions that are configurable to meet the needs of each Retailer Card System.

### **6. Consumer Registration Process**

Figure 6 represents the Consumer Registration Process which is performed on all Participating and Retailer Web Sites. This process involves the gathering of specific Consumer information for forwarding

to the Custom Coupon System. The process may vary in appearance and behavior on each Web site in keeping with that Web site's mission, standards, and user interface, but it's primary function is the same, namely to retrieve and/or capture Consumer information pertinent to the coupon selection and fulfillment processes.

The Consumer Registration process is comprised of modules that identify the Consumer as a first-time or repeat participant, build personalized registration forms, process the forms once submitted, store form contents, and pass session control to the Custom Coupon System.

The Consumer information required of a Participating Web Site by the Custom Coupon System includes consumer identification number, name, address, and electronic mail address. If the Consumer has participated in the Custom Coupon Program previously, a consumer identification number exists and may or may not be known to the Consumer at the time of the Internet session.

The Consumer information required of a Retailer Web Site by the Custom Coupon System includes consumer identification number, retailer card system number, name, address, and electronic mail address. If the Consumer has participated in the Custom Coupon Program previously, a consumer identification number exists and may or may not be provided by the Consumer at the time they choose to initiate a Custom Coupon Program session. If the Consumer is a participant in the Retailer's frequent shopper or club card system, a retailer card system number exists and may or may not be provided by the Consumer at the they choose to initiate a Custom Coupon Program session. If neither a consumer identification number or a retailer card system number is provided, the Consumers name and address is required. An electronic mail address is always required.

Once gathered, this information and control of the Consumer's Internet session is forwarded to the Custom Coupon System via standard Internet and World Wide Web methods and protocols.

#### 7. Consumer Sub-system

Figure 7 represents the Custom Coupon System's Consumer Sub-system, a relational database that stores data specific to each Consumer participating in the Custom Coupon Program and a set of processes for maintaining that data. While other program modules handle interaction with the Consumer participating in the Custom Coupon Program, the modules in this sub-system are responsible for carrying

out low-level database tasks including those associated with defining, saving, backing up, and restoring records associated with consumers.

#### **8. Manufacturer Sub-system**

Figure 8 represents the Custom Coupon System's Manufacturer Sub-system, a relational database that stores data specific to each Manufacturer participating in the Custom Coupon Program and a set of processes for maintaining that data. The modules in this sub-system are responsible for carrying out low-level database tasks including those associated with defining, saving, backing up, and restoring records associated with manufacturers.

#### **9. Coupon Sub-system**

Figure 9 represents the Custom Coupon System's Coupon Sub-system, a relational database that stores data specific to each coupon enrolled in the Custom Coupon Program and a set of processes for creating and maintaining coupons on-line for access and use by other Custom Coupon System processes.

The Coupon Definition Process establishes a new coupon in the database, assigns it a coupon identification number, and records a number of details about the coupon, including manufacturer, effective dates, value, product UPC code, consumer instructions, retailer instructions, and links to image, audio commercial, and video commercial components.

The Coupon Image Cataloging Process is a process which captures, converts, and stores product images (product slicks) in a standard format and in a way that they are easily retrievable by other Custom Coupon System processes.

The Audio Commercial Cataloging Process is a process which captures, converts, and stores audio commercials for products in a standard format and manner that they are easily retrievable by other Custom Coupon Program processes.

The Video Commercial Cataloging Process is a process which captures, converts, and stores video commercials for products in a standard format and manner that they are easily retrievable by other Custom Coupon Program processes.

The Paper Coupon Creation Process is a series of steps that ultimately results in a graphical image of a manufacturer coupon that is subsequently used in the paper coupon printing process.

#### **10. Order Sub-system**

Figure 10 represents the Custom Coupon System's Order Sub-system, a relational database that stores data specific to coupon orders requested by consumers participating in the Custom Coupon Program, and a set of processes for accessing, printing, posting, aging, summarizing, and archiving coupon orders.

This process includes a module for posting coupon redemptions reported by Retailer Card Systems. The redemption records are received and posted against the current active coupons on a daily basis. This process sets and resets status fields in the active coupon selection records that make up a coupon order, and these status fields are subsequently used by the Coupon Selection Process to indicate the status of coupons presented to the Consumer. This daily process also moves aged active orders into an "archive" database and aggregates this data in historical reporting databases.

#### **11. On-line Session State Maintenance Process**

Figure 11 represents the On-line Session State Maintenance Process which keeps track of a Consumer's Internet session with the Custom Coupon System from the time session control is passed to the Custom Coupon System by the Participating or Retailer Web Site until the conclusion of the Coupon Selection Process. This perpetually running process recognizes a new Custom Coupon Program participant, creates and then maintains a record of where the participant is in the process of selecting coupons and confirming the coupon order. It allows for participants to temporarily suspend their participation, and recognizes when participants resume their Custom Coupon Program session.

#### **12. Consumer Validation Process**

Figure 12 represents the Consumer Validation Process which is initiated at the beginning of each new Internet Custom Coupon Program session, and each time a paper coupon selection form is processed.

In an Internet Custom Coupon Program session, this process accepts the consumer data forwarded from the Participating or Retailer Web Site, and determines whether this is a first-time or a repeat Custom Coupon Program participant. The Consumer's consumer identification number and retailer card system

number are used to make this determination, if these data fields are available. If they are not available, the Consumer's name and address are used to make this determination.

In the non-Internet Custom Coupon Program cycle, a paper coupon selection form is received and scanned, and the consumer's identification number is read off the form if the form is being returned from a repeat Custom Coupon Program participant. If a consumer identification number is not available, the Consumer's name and address are used to determine whether the Consumer is a first-time or repeat Custom Coupon Program participant.

If the Consumer is determined to be a repeat participant, his or her records are updated. If the Consumer is determined to be a first-time participant, a consumer identification number is assigned, a Consumer Database record is built, and all data forwarded to the Custom Coupon System or retrieved from the paper form is stored for use by other Custom Coupon System processes.

This process also determines whether the Consumer is ultimately to receive printed paper or electronic coupons at the time of coupon fulfillment. For Internet participants, this is determined by the existence or lack of a retailer card system number received from the Participating or Retailer Web Site when session control was forwarded to the Custom Coupon System. For non-Internet participants, coupon fulfillment continues to be by printed paper coupons.

### **13. Coupon Selection Process**

Figure 13 represents the Custom Coupon System's unique Coupon Selection Process. This multi-step process considers the eligible coupons and the Consumer's origination (Participating or Retailer Web Site), geography, coupon selection history, and preferences in building a customized coupon options list.

For Internet participants, this process presents a confirmation page for the Consumer's review after the Consumer makes his or her selections. When the Consumer acknowledges he or she is finished selecting coupons and wishes to receive the coupons selected, this process creates the coupon order to be fulfilled.

For non-Internet participants, the fact that a coupon form was returned serves as the acknowledgment, and this process creates the coupon order to be fulfilled.

To determine which coupons are eligible for selection, the Custom Coupon System reviews each coupon in the Coupon Database. Coupons are determined to be eligible for selection if the following are true:

- the coupon's effective start date has passed
- the coupon's effective end date has not passed

The Coupon Selection Process then applies two filters to the list of eligible coupons to customize the list of coupon choices presented to the Consumer based on their retailer affiliation and geographic location. Coupons are determined to be eligible for selection if the following are true:

- the coupon is available for this Retailer (applicable if the Consumer's origination is a Retailer Web Site)
- the coupon is available for this geographic area

All of the coupons that remain will be presented to the Consumer, but the Coupon Selection Process applies two additional filters to customize the list of coupon choices based on the Consumer's coupon selection history and preferences. Coupons are determined to be eligible for selection if the following are true:

- the coupon is not currently an active (previously selected, but not yet redeemed) coupon for this Consumer
- the coupon has not already been redeemed by this Consumer
- the coupon does not belong to a coupon category this Consumer wishes to ignore

The Coupon Selection Process then prepares the list of coupons that will be presented to the Consumer. These are organized by coupon category, flagged as having been selected previously, redeemed previously, or eligible for selection, and presented to the Consumer as an on-line form (Internet participants) or printed coupon selection form (non-Internet participants). Each coupon listed has a brief description. Internet participants are also presented with product images, links to audio commercials, links to video commercials, and links to manufacturer's Web sites depending on the coupon.

Internet participants are instructed to make their selections by scrolling up or down the list of coupons, checking the appropriate checkbox for each coupon they wish to receive. Non-Internet

participants are instructed to mark their selections by penciling in the mark sense checkbox for each coupon they wish to receive.

When an Internet participant indicates he or she is finished with coupon selections, or when the non-Internet participant's form is read in, the Coupon Selection Process accepts the selections and summarizes them. A check is made to insure the Consumer has selected a minimum number of coupons. If the Consumer is to receive printed paper coupons, the minimum number of coupon selections required may be in the range of one to two dozen. If the Consumer is to receive electronic coupons, the minimum number of coupon selections required is one coupon. If the minimum number of coupons has not been selected, the Internet participant is alerted and instructed to select at least the minimum number of coupons, while the non-Internet participant's form is rejected.

If the minimum or a greater number of coupons have been selected, a confirmation Web page is presented to the Internet participant. This page itemizes the coupons the Consumer has selected and allows the Consumer an opportunity to decide whether to select more coupons or to conclude their Custom Coupon Program session. This page lists each coupon selected, summarizes the total savings represented by the coupons selected, and informs the Consumer what action will take place when the Consumer acknowledges he or she is ready to conclude the Custom Coupon Program session and to accept the coupons selected. If the Consumer is to receive printed paper coupons, the Consumer is informed that the coupons selected will be printed and mailed to the Consumer's residence in a specific number of days. If the Consumer is to receive electronic coupons, the Consumer is informed that the coupons selected will be posted to the Consumer's retailer card, and will be "active" for a specific number of days.

When the Internet participant indicates he or she acknowledges and accepts the coupons selected and wishes to conclude the Custom Coupon Program session, the Coupon Selection Process creates a coupon order containing all the data pertinent to the Consumer and the coupons selections made in this Internet Custom Coupon Program session.

When the non-Internet participant's form is "accepted", the Coupon Selection Process creates a coupon order.

#### **14. Order Fulfillment Process**

Figure 14 represents the Order Fulfillment Process, a perpetually running process that recognizes when new coupon orders have been created and controls when they are fulfilled in either of two ways. If the coupon order is for printed paper coupons, the Order Fulfillment Process queues the order for the Paper Coupon Printing Process. If the coupon order is for electronic coupons, the Order Fulfillment Process queues the order for the Electronic Coupon Posting Process.

#### **15. Coupon Activity Reporting Process**

Figure 15 represents the Coupon Activity Reporting Process consisting of two sets of modules, one to generate hardcopy reports and another to generate on-demand on-line reports.

To produce a standard set of Custom Coupon Program activity reports, this process reads in all active orders and historical order summary data, sorts the data, and produces printed reports of Custom Coupon Program participation and coupon activity. Reports include:

- Custom Coupon Program Participation (nationally, regionally, and by specific sub-program)
- Coupon Activity Summary (nationally, regionally, by specific sub-program, by manufacturer, by time period, all coupons)
- Coupon Activity Details (nationally, regionally, by specific sub-program, by manufacturer, by time period, by coupon)

To produce a standard set of Custom Coupon Program on-demand on-line reports accessible to Custom Coupon Program administrators, manufacturers, and retail partners, this process reads in all active orders and historical order summary data, sorts the data, and generates on-line reports of Custom Coupon Program participation and coupon activity. Reports included are identical to the printed reports.

#### **16. Performance Reporting Process**

Figure 16 represents the Custom Coupon Program's Performance Reporting Process, a set of modules that produce manufacturer and retail partner-specific reports and invoices. This process utilizes data from all sub-systems plus manufacturer and retail partner-specific parameters to report on metrics and goals, and to generate manufacturer invoices for coupons activity.

#### **17. Paper Coupon Printing Process**

Figure 17 represents the Custom Coupon Program's highly automated Paper Coupon Printing Process. This process reviews all active coupon orders queued for printing, sequences them, and then services each order in turn.

An important step in the Paper Coupon Printing Process is the postalizing of the mailing database to take fullest advantage of the United States Postal Services' lowest first-class mail rates. To do this, the Consumer's address is compared to a database of United States postal route information, and the applicable "zip+4" and delivery point barcode information is identified, added to the Consumer Database, and printed as part of the mailing address.

To print a coupon order, the Paper Coupon Printing Process must retrieve each coupon image from the Coupon Database and position it on a "virtual" page held in computer memory. When a page is fully constructed in memory with up to 10 coupons on it, it is sent to a high-speed laser printer for printing on "ghost" paper, a type of paper designed to prevent fraudulent reproduction.

As the pages of coupons are printed, they are periodically checked for quality. This step in the process is manual and initiated by the printer operator via a sample tray on the printer. The printing continues while the printer operator visually inspects the sampled pages. Using a standard bar code scanner compatible with those found in retail stores, the printer operator also scans the UPC bar code printed on each coupon and visually verifies that the bar code scanned matches the human readable bar code printed on the coupon. The printing process continues, unless interrupted by the operator.

In printing a coupon order, the Paper Coupon Printing Process must also determine whether to print a customized coupon selection form for the Consumer. If the Consumer is a non-Internet participant, then this process prints the customized coupon selection form constructed for that Consumer (see section 13, *Coupon Selection Process* for details).

The printed coupon pages and new coupon selection forms are routed through equipment that automatically separates them by order and inserts them in mailing envelopes.

In addition, this specialized equipment intelligently inserts additional printed materials and product samples into the mailing envelopes according to programmed instructions. This specialized intelligent insertion process is highly configurable and adaptable to handling inserts of varying dimension

and weights, and allows for great flexibility in creating coupons packages for Consumers that are customized according to the coupon selections they have made.

After the final printed coupon page and intelligent insertions are made, the mailing envelope is automatically sealed and stacked for mailing. All postal paperwork is generated prior to printing and inserting.

#### **18. Electronic Coupon Posting Process**

Figure 18 represents the Electronic Coupon Posting Process which posts electronic coupons to the Retailer Card System. This perpetually running process retrieves each order queued for posting, posts it to the Retailer Card System, and responds to acknowledgments received from the Retailer Card System.

Once a Retailer Web Site Internet participant's coupon order is created, a "posting" database is populated with the details of that order. This process then posts the information to the Retailer Card System and waits to process an acknowledgment of receipt from the Retailer Card System. When the acknowledgment is received, the order is moved into an "active order" database for access by other Custom Coupon System processes. If an acknowledgment is not received in a timely manner, this process continues to post the coupon order data until an acknowledgment of receipt is received.

#### **19. Electronic Coupon Management Process**

Figure 19 represents the Card System Management Process which operates on and is unique to each Retailer's Card System. This perpetually running process receives, acknowledges, and posts electronic coupons to the Consumer's retail card. This process also ages the electronic coupons and purges redeemed and expired coupons from the system periodically.

#### **20. Electronic Coupon Redemption Process**

Figure 20 represents the Electronic Coupon Redemption Process which operates on and is unique to each Retailer's Card System. As a Consumer's purchases are registered, this process checks to see if an active electronic coupon for each item exists, and if so, deducts the coupon value from the Consumer's total. As electronic coupons are "redeemed" in this manner, they are updated, and a coupon redemption record is eventually logged for reporting back to the Custom Coupon System.

#### **21. Electronic Coupon Redemption Reporting Process**

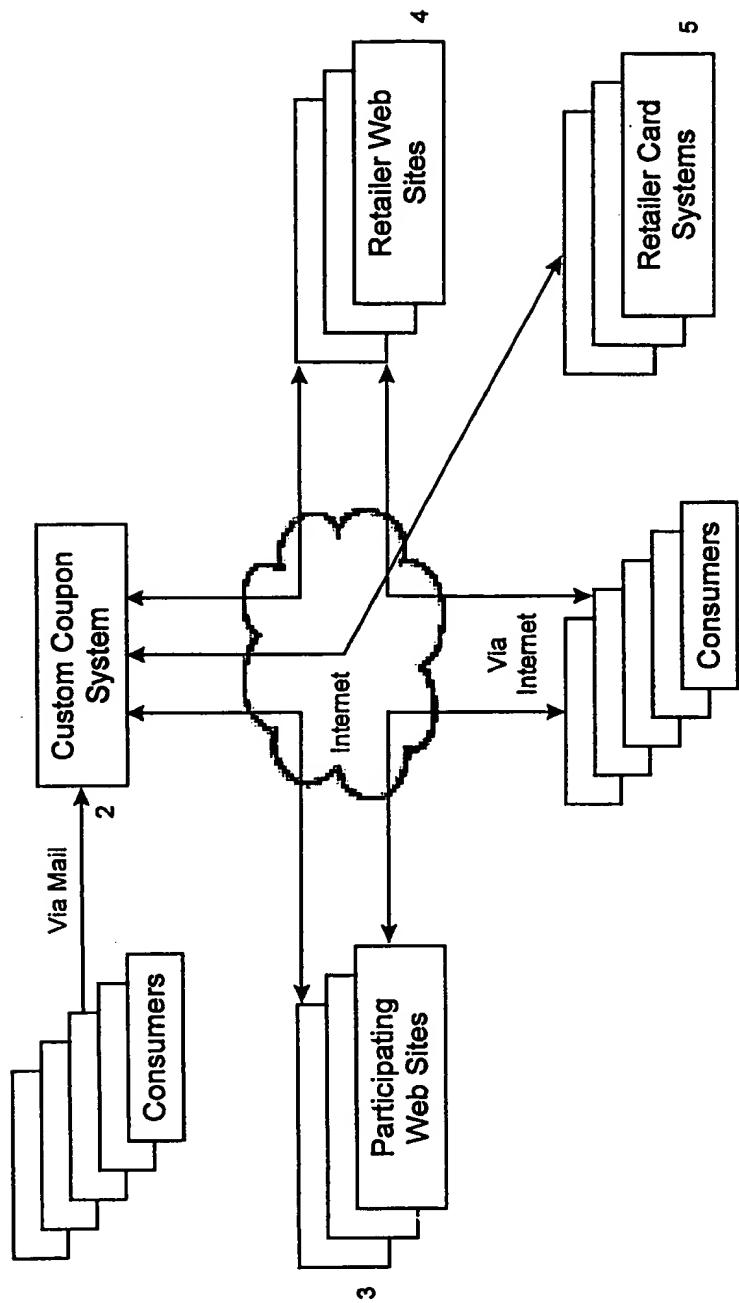
Figure 21 represents the Electronic Coupon Redemption Reporting Process which operates on each Retailer's Card System. On a periodic basis this process retrieves all recent electronic coupon redemption records logged at the point-of-sale, builds a transaction, and posts that data back to the Custom Coupon System.

## CUSTOM COUPON PROCESS

## CLAIMS

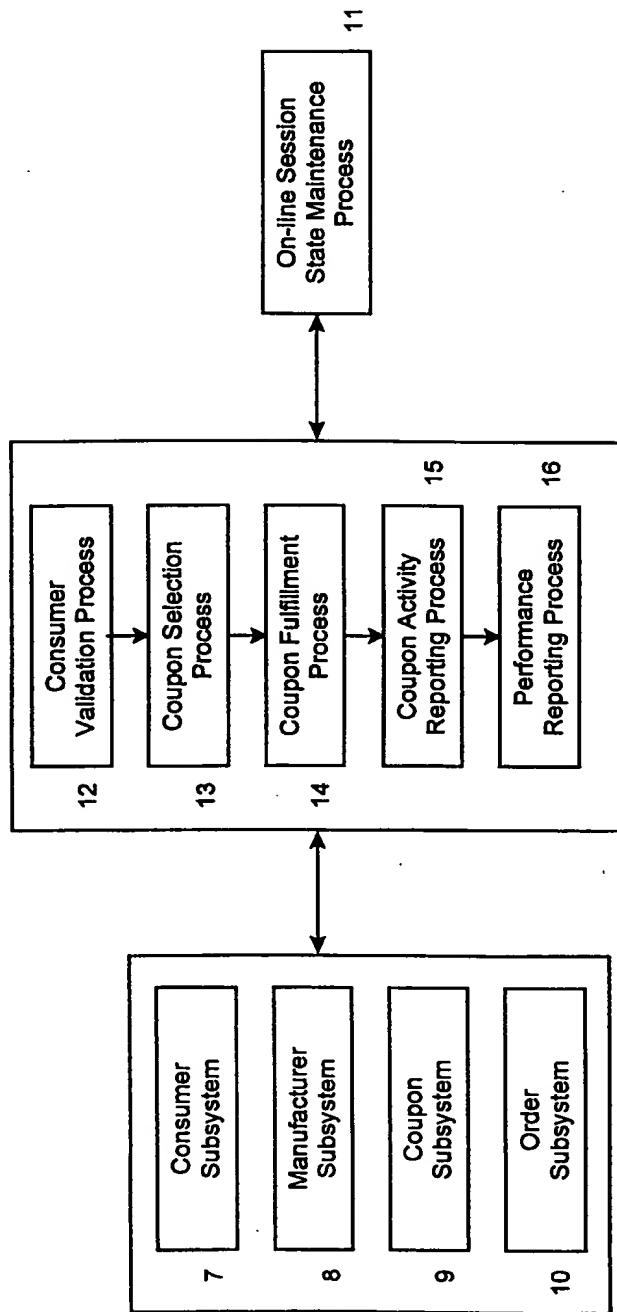
What is claimed is:

1. A process for ordering, assigning value, distributing and redeeming coupons and the like, using a general purpose data processor of known type said apparatus comprising
  - selection and recording means presenting a consumer a selection of coupons from a categorized list of manufacturer and retailer coupons at their residence, and recording the selection on a consumer processing form,
  - identification and recording means for identifying said consumer and his/her coupon selection, and recording the redemption of his/her coupon and identifying the redemption of the coupon with the individual consumer,
  - access and value assignment means enabling manufacturers and retailers to access stored information on an individual consumer and assign a specific value to individual coupons based upon said information,
  - secure distributing means whereby said coupons are distributed to the consumer,
  - redemption and recording means whereby said coupons are redeemed at retail establishments and recorded.
2. The process of claim 1 wherein said consumer is issued an identification card encoded with a consumer identification code.
3. The process of claim 1 wherein said coupon is securely distributed by means of printing on a secure paper preventing fraudulent reproduction of said coupons by printing the word void on the coupon when the coupon is copied, and distributing the coupons to the said consumer's residence.
4. The process of claim 1 wherein said coupon is securely distributed by posting said consumer's selections whereby said consumer can redeem the coupon through the identification card at participating retailers.

**Custom Coupon System Overview****Fig 1**

**Custom Coupon System**

Fig 2



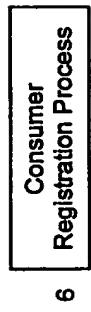
**Participating Web Site**

**Fig 3**



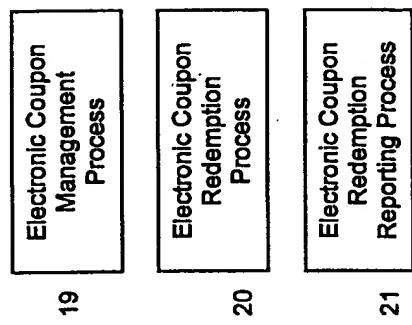
**Retailer Web Site**

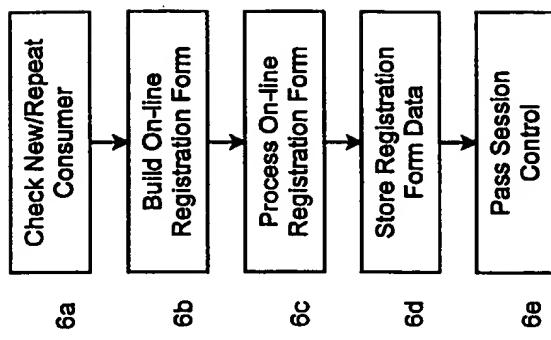
Fig 4

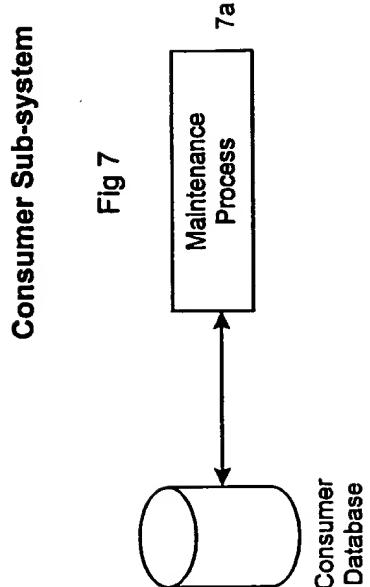


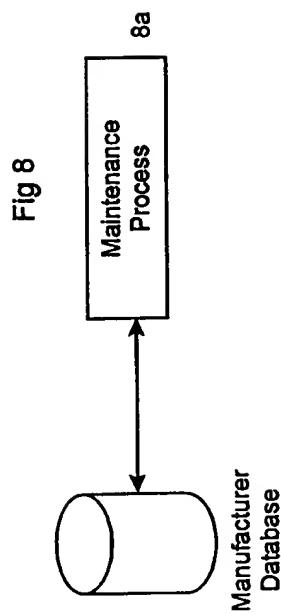
**Retailer Card System**

**Fig 5**



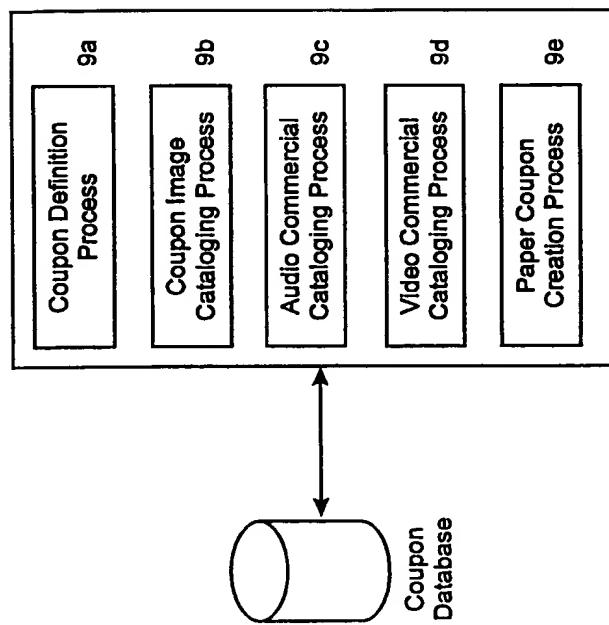
**Consumer Registration Process****Fig 6**



**Manufacturer Sub-system**

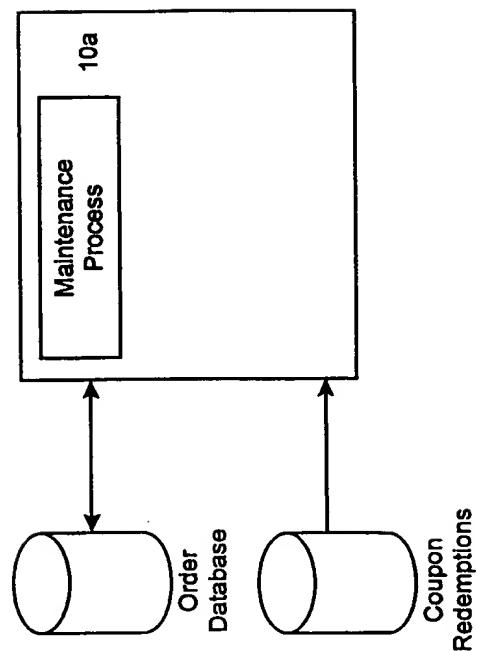
**Coupon Sub-system**

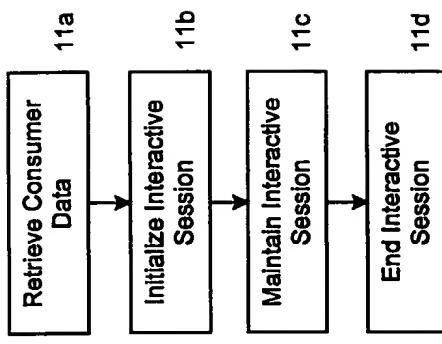
Fig 9

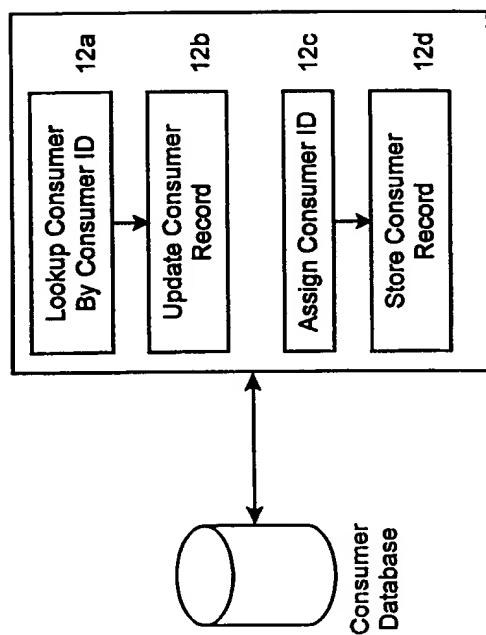


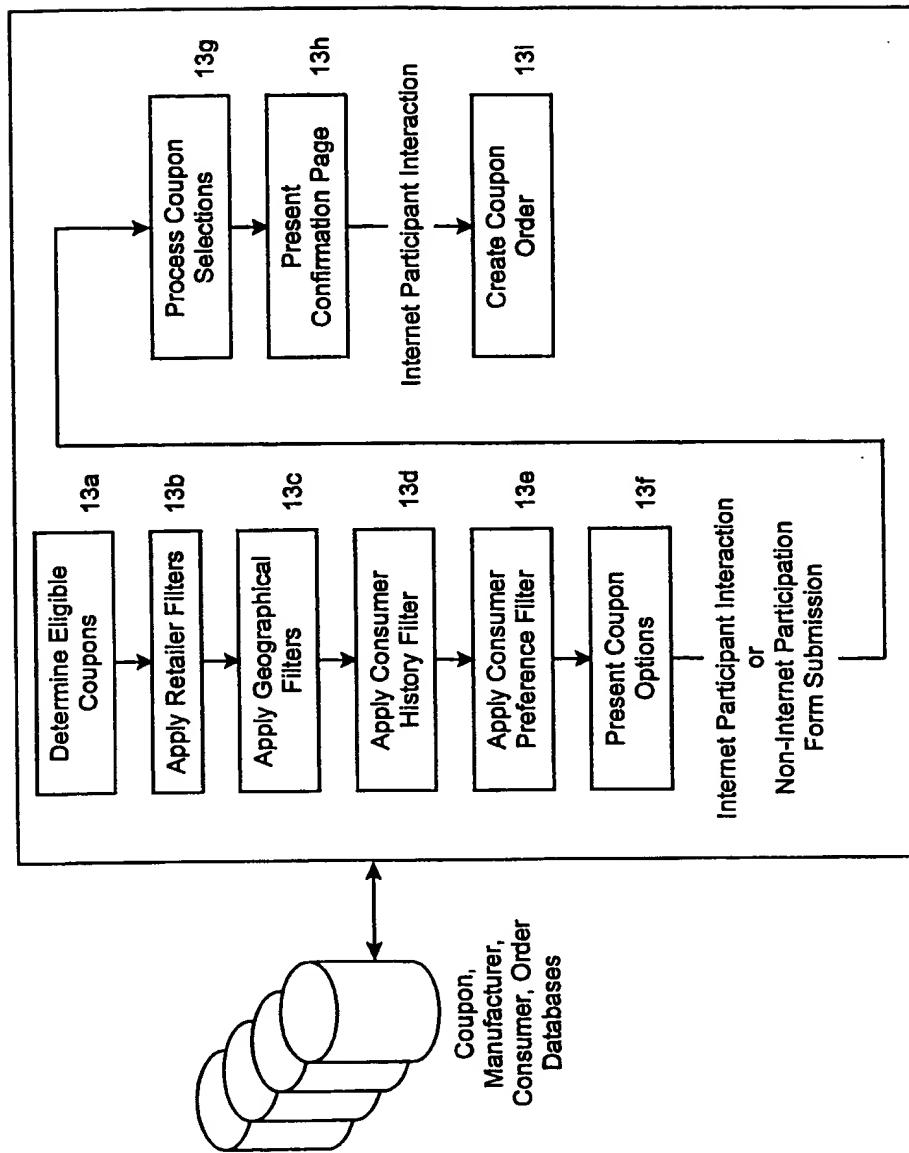
**Order sub-system**

Fig 10



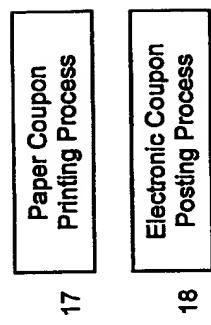
**On-line Session State Maintenance Process****Fig 11**

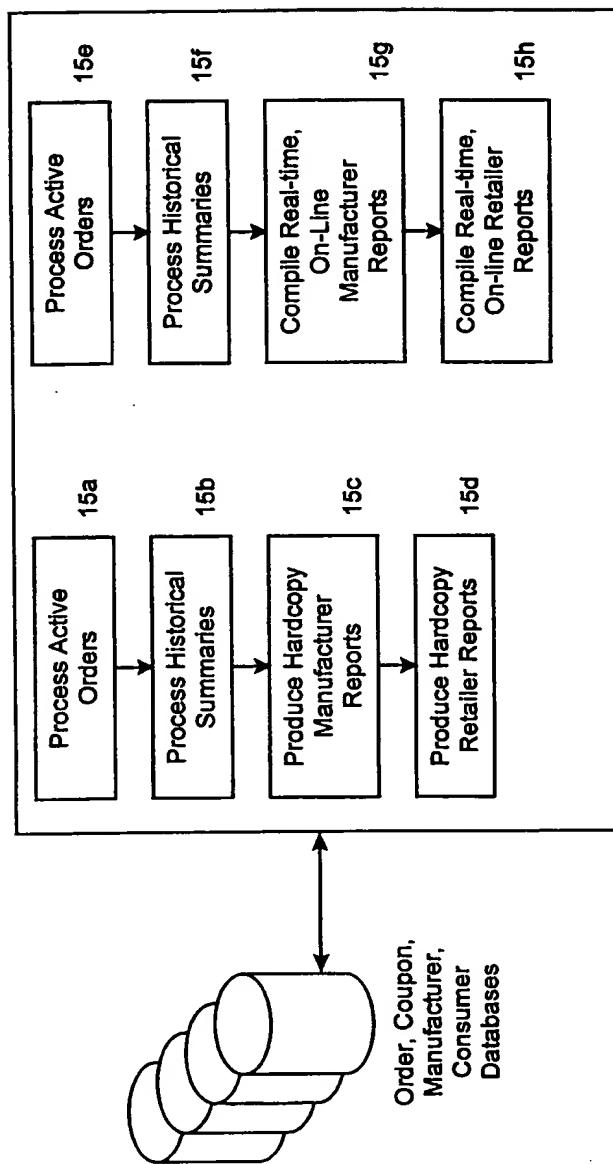
**Consumer Validation Process****Fig 12**

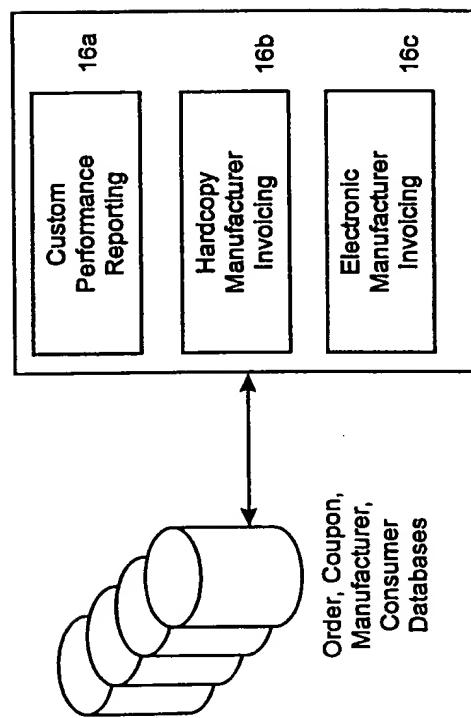
**Coupon Selection Process****Fig 13**

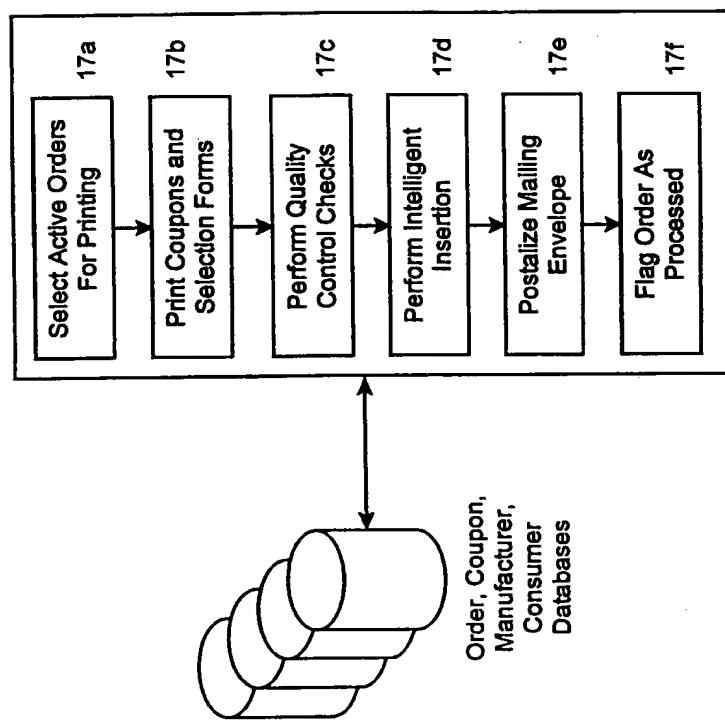
**Coupon Fulfillment Process**

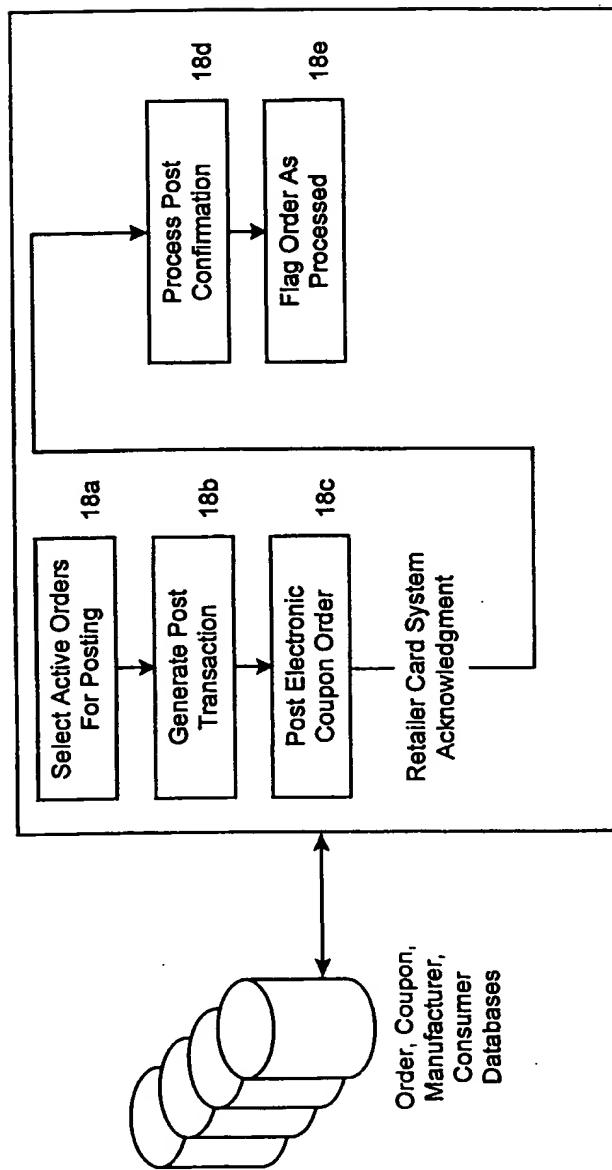
Fig 14



**Coupon Activity Reporting Process****Fig 15**

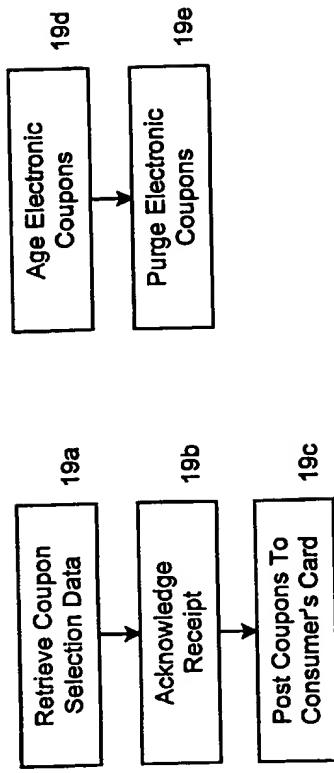
**Performance Reporting Process****Fig 16**

**Paper Coupon Printing Process****Fig 17**

**Electronic Coupon Posting Process****Fig 18**

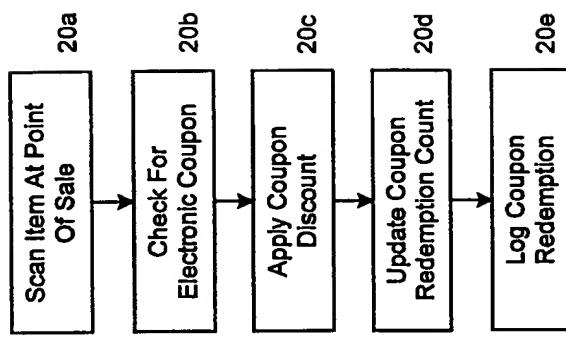
### Electronic Coupon Management Process

Fig 19



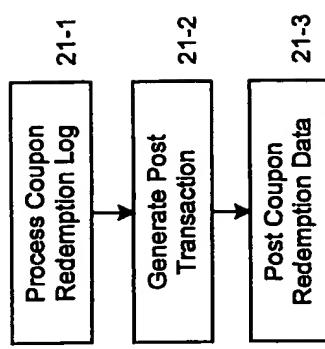
**Electronic Coupon Redemption Process**

Fig 20



**Electronic Coupon Redemption Reporting Process**

Fig 21



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